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ABSTRACT

This research project used 93 college students to study the correlation between neuroticism and interpersonal space. The study shows that stressed persons prefer larger social distances than do well adjusted persons. Results also revealed a proxemic difference related to sex of the experimenters, with subjects prefering to sit closer to female experimenters. The paper includes implications of the study for clinical practice. (HHL)

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The Relationship of Neuroticism to Proxemic Behavior

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Since the publication of the work of two pioneering researchers, Hall (1959 and 1966), and Sommer (1969), hundreds of studies have examined the importance of personal space and social distance.

Many of these studies have examined social distance in regard to stress where physical distance serves defensive needs by diminishing the impact of threat (Sommer, 1969). Invasion of personal space is viewed as stressful in, for example, the studies of Efrain and Cheyne (1974) and Allekian (1973).

More important for the present study, persons already under stress are seen as possessing or preferring larger personal spaces or social distances than better-adjusted, less defensive, or nonstressed persons.

Dosey and Meisels (1969) placed one group of subjects under stress by calling into question their physical attractiveness. The stressed subjects as compared to a second nonstressed group of subjects preferred more distance between themselves and a target person. Little (1966) found that children stayed larger distances from their parents under conditions of reproof as compared to conditions of praise.

In other studies, stress per se has not been actively manipulated but has been inferred to operate categorically in pre-existing groups, usually groups of socially deviant or maladjusted individuals. Horowitz et al (1964) found that schizophrenics, a group notorious for interpersonal withdrawal, were more reluctant than nonschizophrenics to approach a target person. Kinzel (1970) found that violent prisoners preferred social distances of up to four times greater than nonviolent prisoners. More recently Newman et al (1973) discovered that adolescent males with behavior problems preferred larger interpersonal distances than non-deviant adolescent males.

These studies make apparent that certain stressed groups prefer larger distances between themselves and others (whether the stress comes from without through experimental manipulation or from with in maladjusted or defensive persons).

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In light of the above studies, neurotics, a group classically considered to be stressed by feelings of inadequacy, and anxiety, might be another group expected to prefer larger social distances than nonneurotic persons. In the present study, the main hypothesis was that high neuroticism scorers would prefer larger interpersonal spaces than low neuroticism scorers.

METHOD

Subjects: Since clinically diagnosed neurotics were unavailable for study, 50 male and 43 female introductory psychology students from Geneseo State College participated in the experiment in order to fulfill a course requirement. Neuroticism or neurotic tendency was measured by the Eysenck Personality Inventory (Eysenck and Eysenck, 1968) which detects "individuals ... predisposed to develop neurotic disorder

(p. 6). For this sample, mean neuroticism score was 10.9, S.D was 4.0, and the range of scores was 2 to 22.

Experimenters: Since proxemic studies are vulnerable to experimenter or target person effects (Hartnett et al, 1970; Mahoney, 1974; and Pederson, 1972), two male and two female upperclass psychology students acted as experimenters. The experimenters remained naive as to the real purpose of the experiment, and they did not know any of the subjects.

Procedure: Subjects individually entered the 30 by 30 foot experimental room through a back center door. The room was empty except for 3 rows of 3 evenly spaced, easily-accessible chairs as well as a small table and chair at the front center of the room at which the experimenter sat. The center chair of each row was spaced 3, 6, or 9 feet from the experimenter's table so as to approximate Hall's "personal-far", "social-near", and "social-far" categories respectively.

As the subject entered the room, the experimenter asked if he/she was there for the experiment and to take a seat. The experimenter read the instructions which informed the subject that the experiment was designed to see if group versus individual administrations of a personality inventory influenced the scores. The subject was told that he/she was in the individual administration condition. The subject was then administered the Eysenck Personality Inventory (Eysenck and Eysenck, 1968) which measures the main personality dimension in question, neuroticism, as well as tendency to respond in a socially desirable manner. While the subject was completing the inventory, the experimenter appeared to be working on some other irrelevant papers but at the same time recorded the subject's sex, code number and position on a seating chart. At the conclusion of the experiment, the subject was asked to send in the next subject who was waiting in the hall.

RESULTS

T-tests for independent samples determined that for the major variable in the study there were no differences between the two male experimenters nor between the two female experimenters. Since there were no initial differences between the two male experimenters the data for them were collapsed. A similar procedure was followed for the two female experimenters.

Subjects' lie scale scores were examined to determine whether any subject's Eysenck responses were invalid. The scores ranged from 0 to 5 with a mean of 2.2 and a S.D. of 1.4. No subjects were eliminated on this basis since all subjects' scores fell within an acceptable range.

Pearson correlation coefficients were computed to determine the relationship between the dependent variable of distance in feet (between experimenter and subject) and the independent variable of neuroticism. A significant correlation was obtained between neuroticism score and distance ($r = .26$, $p < .007$). The high neuroticism scorers tended to sit further away than the low neuroticism scorers.

In a further check on the results, the data were subjected to a 2x2x2 analysis of variance with neuroticism, sex of experimenter, and sex of subject as the main variables and distance in feet as the dependent variable. A median split was used to determine groups of high versus low neuroticism scorers.

A significant main effect for neuroticism was obtained, $F(1,86) = 7.1$, $p < .01$. High neuroticism scorers sat a mean distance of 4.53 feet from the experimenter while low neuroticism scorers sat a mean distance of 3.51 feet or about a foot closer to the experimenter.

A significant main effect for sex of experimenter was obtained, $F(1,86) = 4.04$, $p < .05$; all subjects regardless of sex sat a mean distance of 4.3 feet from the male experimenters and a shorter mean distance of 3.61 feet from the female experimenters.

No other main effects or interactions were significant.

DISCUSSION

The main hypothesis of the study was supported; high neuroticism scorers self-selected seats further from the experimenter than did low neuroticism scorers. The present study, then, adds to the literature in abnormal psychology and proxemic behavior which generally finds that maladjusted or stressed groups prefer larger social distances than non-stressed or better-adjusted groups.

This finding suggests several interesting points of conjecture. First of all, the study, in terms of social distance at least, is more supportive of theoretical treatments of neurotics being avoidant of rather than exploitive of or dependent upon other persons. For example Horney's (1937) notion of neurotics moving away from people rather than moving toward or against them is supported by the current research. The study also suggests implications for Dollard and Miller's (1950) conceptualization of neurotics being more avoidant (i.e. steeper gradient) as they approach the goal or in this case the experimenter. In retrospect, it would have been interesting to check for neurotic vacillation between approach and avoidance by collecting latencies between being instructed to take a seat and the actual selecting of a seat. High neuroticism scorers should have had longer latencies to decide than low neuroticism scorers.

Similarly the result that persons with neurotic tendencies prefer larger social distances than those low in such tendencies has implications for clinical practice. Clinicians who wish to reduce anxiety and stress might allow neurotic clients to sit further away than usual. On the other hand clinicians whose therapies depend on heightened arousal and stress might request that such clients sit as close as possible.

Two other notes of interest related to the results of the present study but unrelated to the main hypothesis deserve mention. They are related to the sex of the experimenter and the sex of the subject.

No significant differences between the two male experimenters nor between the two female experimenters were noted, and, interestingly enough, no formal effort was made to equate the females or the males on height, appearance, personality or other characteristics. However, a significant difference for sex of experimenter was obtained. All subjects regardless of sex elected to sit further from male experimenters than from female experimenters. This finding replicates those of Pederson et al (1972) and Willis (1966) who also found that subjects prefer larger distances between themselves and males as compared to distances between themselves and females. Other studies have used

either female experimenters only, for example Aiello (1972), or male experimenters only, for example Sewell (1973), while others have not reported, controlled, or analyzed for sex of experimenter of target person. The target person or experimenter seems to be just as important as is the subject in studies of personal space.

In regard to sex of subject, most studies have indicated that females tend to approach others or allow others to approach them more closely than do male subjects (Horowitz et al, 1970; Lott and Sommer, 1967; Pellegrini and Empey, 1970; Sommer, 1959). The present study found no support for females preferring smaller personal spaces than males. In fact the small but admittedly artificial correlation between distance and sex indicates that female subjects in this study sat slightly further away than did males. Why this is the case is explainable in terms of the fact that there was a significant correlation between sex and neuroticism (females scoring higher) or perhaps is explainable is some way in light of the fact that the campus from which the subjects came is predominantly female (75-80%). Only one other study (Gawron, unpublished) reports the same finding; this study also drew subjects from the same campus population.

In summary, the main hypothesis was supported. High neuroticism scorers tended to significantly self-select larger social distances than did low neuroticism scorers. The study supports past research which finds that abnormal or stressed groups prefer larger diatances between themselves and others more than do groups of better adjusted or nonstressed groups.